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UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

S
PLANTING - Medicine Bow
Annual Report

1941
ANNUAL PLANTING REPORT
MEDICINE BOW NATIONAL FOREST

January 1, 1941 to December 31, 1941.

FOREST SERVICE
Medicine Bow National Forest
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Laramie, January 1, 1942

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ANNUAL PLANTING REPORT

MEDICINE BOW NATIONAL FOREST

JANUARY 1, 1941 to DECEMBER 31, 1941.

Approved:

J.S. Weeder

J.S.WEEDER Forest Supervisor

Respectfully Submitted:

Howard C. Lee

HOWARD C. LEE Forest Ranger

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ANNUAL PLANTING REPORT 1941

I. Review of the Work of the Year.

A. Acreage, name and location of plantations.

Pole Mountain Project	226 acres
Foxpark Project	162 acres
Total acreage planted	388 acres.

The locations of the plantations by legal subdivisions are as follows:

Pole Mountain Project

Sections 17,18,19,20. T14N, R71W.

Section 35. T15N, R72W.

Foxpark Project

Sections 3,4,9,10. T12N, R79W.

Sections 9,16,17. T13N, R77W.

Replanting.

Replanting was confined to one 22 acre tract on the Pole Mountain Project.

B. Method and season of planting.

The deep hole method was used exclusively in the planting on the Pole Mountain and Foxpark Projects. The modified deep hole method might have secured greater numerical production, however, in view of the severe growing conditions which have prevailed in this area in recent years, of which 1941 was an exception, and the inexperienced labor used, it was deemed wiser to be certain that each tree was well and securely planted.

An experiment to increase production by specialization was tried out with a few of the outstanding men of the CCC crew. A crew of one digger and two planters, all of whom had successfully eliminated unnecessary movements, was pitted against an equally proficient crew of three using the usual planting method. The per man output of the crew using the ordinary method exceeded that of the crew of specialists. Since the result was negative, the attempt was abandoned.

Planting started on April 30 on the Pole Mountain Project and continued without interruption because of weather until June 3. Planting on the Foxpark Project commenced on May 2 and continued until May 27.

Weather conditions.

Precipitation from December 1940 until March 1941 was considerably below normal. This abnormality, accompanied by unusually warm weather, was not conducive to the storage of soil or surface moisture and the outlook was for another unfavorable year for planting. Heavy, wet snows fell in April putting the soil in excellent condition for planting. Snows and light rains during May combined with overcast skys and moderate temperatures kept soil moisture up to the high level attained in April.

Precipitation during the growing season was well above normal while temperatures were generally lower than usual.

Precipitation and temperature values for the period involved are shown below in tabular form.

Monthly temperature ranges during the growing season.

Month	Max.	Min.	Mean Max.	Mean Min.	Mean	Days with 80° or above	Days with 32° or less
	°F.	°F.	°F.	°F.	°F.		
April	52	8	41.8	21.9	31.8	0	29
May	74	16	58.2	32.5	45.4	0	13
June	74	30	62.9	38.0	50.4	0	6
July	82	34	71.9	43.1	57.5	1	0
Aug.	83	31	69.7	42.3	56.0	3	1
Sept.	75	19	60.6	31.9	46.2	0	15

Precipitation

Year	Month	Normal	Actual Ppt.	Greatest in 24 hrs.	Number of days with ppt. of .01 or more	Distribution of snowfall.
		in.	in.	in.	days	in.
1940	Dec.	.76#	.05	.05	1	0.6
1941	Jan	.80	.63	.30	4	9.3
	Feb	.82	.26	.09	6	3.8
	Mar	1.14	.69	.20	10	9.3
	Apr.	2.78	4.36	1.52	12	26.9
	May	2.55	1.48	.93	8	1.7
	June	1.70	4.03	2.18	8	7.5°
	July	1.84	1.25	.33	12	.0
	Aug.	1.55	2.90	.94	16	.0
	Sept.	1.47	.98	.24	8	6.5
	Oct.	.75#	1.70	.51	12	6.1
	Nov.	.60	.91	.34	5	9.1
TOTALS			19.24		102	80.8

° For the 9th and 10 th of June only.
An average for the past ten years. Not a Weather Bureau normal.
Data from CLIMATOLOGICAL DATA, U.S. Weather Bureau.

C. Species, age class and number of trees per acre.

See sheet A in the Appendix.

D. Labor conditions, wages, etc.

Pole Mountain Project.

Approximately 60% of the planting done on this project was done with labor from the Nursery Sidecamp. The remainder of the labor used came from the Laramie ERA project.

For cost accounting purposes, the standard 1.50 per day per man charge was made against CCC labor. The time for foremen was computed at their actual wage.

Considerable stress was placed on good planting practice with the result that survivals are excellent to date. Close supervision on the part of the foremen was an important factorin the quality of the planting. However, the speed that should have appeared with experience never materialized. Several devices were tried, none at the

sacrifice of quality in planting, to boost the daily average of trees planted but results attained were practically nil.

The daily wage of the men in the ERA crew was computed on the basis of $3.12 for laborers, and 4.12 for the foreman. The strength of the ERA crew varied daily from a minimum of five men to a maximum of twenty two. Increased activity in national defense projects was responsible for the large daily turnover. The younger and physically fit men rarely remained over three days on the project. Supervision and training became an extremely important factor while this situation prevailed, yet quality of work and output were consistently satisfactory. The ERA foreman in charge did a commendable job of handling his ephemeral crew. An unavoidable loss in effective time was introduced by the necessity of hauling the ERA back and forth from Laramie daily. This loss was minimumized by arranging for the crew to travel one way on their own time.

Foxpark Project.

The Foxpark planting was done entirely by CCC labor supervised by foremen from the same camp. Quality of planting was good and the output, 196 trees per man day, was above the average ordinarily accomplished with this type of labor. Possibly the foremen's knowledge of the abilities and capacities of their regular crews made speed in planting a routine attainment.

E. Protection

Porcupines.-No regular control projects were initiated on either of the districts concerned in this year's planting. Control is approached by instructing employees to kill porcupines incidental to their duties on other jobs. About 125 porcupines are known to have been killed since January 1941. Evidence of an increase in the porcupine population is apparent and project control may be necessary unless natural factors appear to bring the population back into balance.

Rabbits.-No planned control. They are not over-abundant and natural predators are doing an effective job in keeping the numbers down.

Stock.-Trampling by stock is not an important detriment to successful plantation establishment. In the past, sheep range was avoided as planting site and cattle distribution was deflected from newly planted areas by judicious salting and riding plans. Army maneuvers in 1941 and the prospect of continued maneuvers for a number of years, offer an advantageous respite from any possible stock damage for the more recent plantations on Pole Mountain. Against this type of damage, though, must be balanced the damage

from trucks participating in the maneuvers.

Beaver.-Beaver damage is only of limited importance and is incidental to their water storage activities. Plantations of Spruce and Douglas Fir in stream bottoms are susceptible to this type of damage. The threat of beaver damage may assume some importance on the Pole Mountain Projects where an over-population of beaver in search of food are invading almost every drainage where even a small water supply can be utilized. Plantations 49A to D are a striking example of what can happen in this respect.

Fire.-Pole Mountain.

No special fire protection has been given the plantations in the past and none seems to have been warranted. However, the present non-use of the range land and continuation of favorable moisture conditions may very well result in an accumulation of herbaceous cover which may build up a definite threat to the plantations.

Foxpark.

No special provisions are made for fire protection on this project either.

F. Results of planting. Survival figures.

See table on page 6.

G. Organization of the work.

Crews.

The ERA crew which had been employed on the Pole Mountain district was enlarged to 22 men in order to facilitate the planting job. This crew was moved to and from the job every day in government furnished transportation. Travel time was half way on the men's time.

The small Nursery Sidecamp was increased to capacity to provide sufficient labor to simultaneously dig, cull and plant the trees. In order to make most effective use of this crew, favorable sites were chosen reasonably close to the camp.

Training.

On the assumption that the criterion of a successful planting job should be primarily the number of trees that survive and not necessarily the number planted, training was emphasized for the first week and no attempt was made to increase production.

On the day previous to the time planting was to start, the foremen, regardless of their prior experience, were assembled and all steps and plans in the planting job were reviewed, tried out in the field and discussed.

The planters were all given individual instruction by the foremen with frequent check-ups during the first week on the training area.

Eventually, every planter's work was rechecked by the ranger

Crew organization and equipment.

In order to provide an effective follow-up on the training, each foreman was required to complete a check list record for each man in his crew daily. These records were analyzed each night and, using them as a partial basis, the indicated weaknesses were noted for correction the next day. Rearrangement of crews and methods for increasing output were also discussed. In addition to the aid to the foremen in analytically determining the things their men were doing wrong, the sheets provided a mental spur to the men for better work.

Crews were organized into groups of 10 with a foreman and one other man acting as water and tree boy. The truck drivers acted in this capacity whenever possible. In the case of the ERA crew, planting was a physical impossibility for a few of the men because of their age. These men were assigned to the supply jobs.

Planters were equipped with tree bags and planting hoes. The planters were instructed to keep the bags well watered at all times. In order to minimumize the chance of damage to the planting stock, foremen were cautioned to split bundles in two among men who took more than an hour to dispose of one full bundle. As an additional means of getting a record on the number of trees planted, the planters were required to count the number of trees in each bundle as they separated the roots before insertion into the planting bags. A record of the number of trees planted daily was kept by the foremen and checked against nursery estimates. The two counts usually checked reasonably close.

Nursery.

A nursery crew of 12 men, including a foreman who was also in charge of the administration of the sidecamp, was required to dig, cull and bundle the trees for the Pole Mtn. and Foxpark Projects. A number of other tree distribution jobs were also handled by this same crew. i.e. 2.5 M, 2-1 Pinus contorta to the Bighorn, 319.8 M , 2-0 , Pinus ponderosa to the Bessey Nursery and 49.0 M, 2-0 Juniperus scopulorum, 24.0 M, 3-0 Pinus contorta, 14.4 M, 3-0 Picea Engelmanni and 12.1 M, 3-0 Picea pungens to the Monument Nursery.

2.5
9.8
319.8
49.0
24.0
14.4
12.1
421.8

Late spring snows and freezing conditions prevented digging the trees for at least a week later than usual.

All trees were carefully culled, bundled and shipped directly to the field in Nebraska tree boxes from the nursery at Pole Mtn. Trees for the Foxpark Project were shipped to the Chimney Park Camp where they were stored until they were ready for use. Large shipments were made at about four day intervals to reduce unnecessary travel between the nursery and the camp. No trees were stored for longer than this period.

F. Results of planting. 1941, 1940 and 1937.

RESULTS OF PLANTING LAST 5 YEARS

POLE MOUNTAIN PROJECT

Year	No.	Age Class	Species	Acres	Survivals						Remarks
					1st year		3rd year		5th year		
					%	per A.	%	per A.	%	per A.	
1941	P-60	2-1	Pinus ponderosa	22							To be counted Fall 1942
	P-61	2-1	" "	204							" " " " "
1940	P-58	2-1	Pinus ponderosa	201	35	212					Severe site
	P-59A,	3-0	Pseudotsuga taxifolia	12	90	548					Excellent site
	B	3-0	" " "	11	92	560					
1939	P-54	2-1	Pinus ponderosa	292	6	37					Severe drought
	P-55	2-1	Picea pungens	23	42	278					
	P-56	2-2	Pinus ponderosa	68.4	4	26					Severe site and drought
	P-57	2-1	Pseudotsuga taxifolia	8.5	47	310					
1938	P-51A,										
	B,C	2-1	Pinus ponderosa	272	78	444					Losses from drought 1939
	P-52	2-1	Pseudotsuga taxifolia	56	91	536					
	P-53	2-1	Pinus contorta	55	94	555					
1937	P-47	2-1	Pinus contorta	26	94	578	77	473	60	369	Fairly well established
	P-48A	2-1	Pinus ponderosa	60	85	541	49	312	51	324	" " "
	P-48B	2-1	Pinus ponderosa	5.4	87	564	10	65	6	39	Failure
	P-48C	2-1	Pinus ponderosa	32.8	87	553	41	261	27	172	"
	P-49A to D	2-1	Picea glauca (Albertiana)	4.2	97	554	74	422	33	188	Partly inundated
	P-50A to I	2-1	Pseudotsuga taxifolia	38	94	594	43	271	25	158	

RESULTS OF PLANTING LAST 5 YEARS

Foxpark Project

Year	No.	Age Class	Species	Acres	Survivals 1st year %	Survivals 1st year per A	Survivals 3rd year %	Survivals 3rd year per A	Survivals 5th year %	Survivals 5th year per A	Remarks
1941	P-3	2-1	Pinus ponderosa	106							
	P-4	2-1	Pinus ponderosa	56							
1940	P-2A, B	2-1	Pinus ponderosa	186	44	~~238~~ 273 157					
1939	P-1	2-1	Juniperus scopulorum	14.5	0	0					Severe drought
			Ward Gulch Project								
1940	P-1	3-1	Picea Engelmanni	19	58	436					
	P-2A, B	3-0	Pseudotsuga taxifolia	20	46	315					
			Centennial Project								
1940	P-2A, B	2-1	Pinus ~~ponderosa~~ contorta *	34	10	60					Failure
1939	P-1	2-1	Pinus contorta	82	29	186					34 acres replanted in 1940. Survival based on remainder. Mostly in Aspen.

2-4-41 Note written Forest about these changes.

Foremen were instructed to have their crews rebundled all trees left in the planting bags at the end of each days work period and to store these along with bundles left in the Nebraska tree boxes in specially prepared storage places in nearby creeks. To reduce the possibility of dehydration, it was the responsibility of the water boys to water down the trees in the large tree boxes about four times each day.

Culling.

The men assigned to the culling were chosen, because they were the most able workers in the CCC group. They were given a thorough understanding of what was wanted before they were allowed to work alone. The foreman constantly checked on the results being attained.

In accordance with instructions from the Regional Office, an exceptionally rigid culling standard was set up this year.

Some hail damage was experienced when a heavy hailstorm occurring late on a Saturday afternoon defoliated some of the stock remaining in the beds. Sufficient labor was not available at the time to cover the beds.

H. Reforestation policy. Plan of work.

When planting is again undertaken on the Medicine Bow, the planting proceedures established in thepast should be adhered to. The policy of underplanting Aspen with Douglas Fir and Spruce has proven to be silviculturally sound. The sites chosen should not be poorly drained bottom lands. The rank growth of weeds and grasses on such areas apparently provides an insurmountable obstacle for young trees to establish themselves. Aspen sites situated in the lateral drainages of the main stream bottoms are more suitable sites as the plantation inspections show.

Advantage should be taken of the protective cover afforded by sagebrush and remnant stands of established trees in locating Ponderosa pine plantations. The advantage is twofold, snow tends to accumulate there and remains later in the spring and some protection from the dessicating effect of the wind is afforded when planting is done on the leeward side of such natural screens. The efficacy of this policy is readily noticeable on established plantations.

On such severe sites as Pole Mountain provides for the most part, quality in planting,above other considerations,should be striven for.

The stock now on hand at the nursery as shown by the most recent inventory is as follows:

Transplants

Pinus flexilis	21.0 M
Juniperus scopulorum	5.0 M
	26,0 M

Seedlings

Pinus contorta	11.2 M
Picea pungens	15.2 M
Picea Engelmanni	13.8 M
Pseudotsuga taxifolia	30.8 M
	71.0 M
Grand total on hand at nursery	97.0 M

It is planned to use the transplant stock for local ornamental planting. The seedlings will be shipped to the Monument Nursery in the Spring of 1942. A small CCC crew can complete this latter job in a few days.

No planting stock will be available for planting from the Pole Mountain Nursery in the Spring of 1942 and the uncertainty of the present military situation precludes the advisability of shipping in any stock from other nurseries. As indicated on Sheet E, no planting is contemplated on Pole Mountain for the next 5 years because of the strong possibility of continued military use.

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SHEET A

Annual Planting Report

Medicine Bow National Forest January 1 1942.

Planting

Project and plantation number	Acres	Species	Source and age of stock	Number of trees per acre	Trees	Cost per acre* Ground preparation	Planting	Transportation	Other	Total cost per A.	Value of contributed time included in total
(January to June)											
Pole Mountain											
— P-60	22	Pinus ponderosa	Pike (Bailey) 2-1	568	3.27	0	10.22	----	.33	13.82	--------
— P-61	204	"	"	535	3.08	0	7.52	----	.54	11.14	--------
Foxpark											
— P-3	106	"	"	741	4.26	0	7.07	----	.34	11.67	-------
— P-4	56	"	"	741	4.26	0	7.08	----	.43	11.77	------
(July to December)											

Total acreage 388 ✓ Total cost $ 4473.72 ✓

Weighted average cost per acre for current year $11.53 ✓ ; for previous 5-year period ---------- **

Weighted average cost per M for current year $18.52 ✓ ; for previous 5-year period ---------- **

1/4/38

*See instructions on back of Form 134.

**Do not include current year in this average.

SHEET B

Annual Planting Report

Medicine Bow National Forest

Coniferous Seed Collection and Extraction

Species (1)	Bushels cones collected and purchased (2)	Cost per bushel (3)	Pounds clean seed (4)	Cost per pound of clean seed: Extraction (5)	Cost per pound of clean seed: Total (6)	Clean seed purchased: Pounds (7)	Clean seed purchased: Cost per pound (8)
Seed for Forest Service use							
		NONE COLLECTED					
Subtotal		xxx		xxx	xxx		xxx
For Cooperators							
		NONE COLLECTED					
Subtotal		xxx		xxx	xxx		xxx
Total		xxx		xxx	xxx		xxx

SHEET C

Annual Planting Report

Medicine Bow National Forest

Hardwood Seed Collection and Extraction

Species (1)	Pounds Collected and Purchased (2)	Cost per Cwt. (3)	Pounds clean seed (4)	Cost per pound clean seed: Extraction (5)	Cost per pound clean seed: Total (6)	Clean seed purchased: Pounds (7)	Clean seed purchased: Cost per pound (8)
For Forest Service Use							
NONE COLLECTED							
Subtotal		xxx		xxx	xxx		xxx
For Cooperators							
NONE COLLECTED							
Subtotal		xxx		xxx	xxx		xxx
Total		xxx		xxx	xxx		xxx

SHEET D

Annual Planting Report

Medicine Bow National Forest

I. The Planting Job - Acres

State and Forest	Areas to be Planted: Covered by Intensive Planting Surveys: Current Year: Gross	Areas to be Planted: Covered by Intensive Planting Surveys: Current Year: Net	Areas to be Planted: Covered by Intensive Planting Surveys: Net total to date	Areas to be Planted: Needing intensive surveys	Areas to be Planted: Total	Average annual planned planting program for next 5 years
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Wyoming, Medicine Bow	0	0	14639.0	12230.0	26869.0	0 A.
Total	0	0	14639.0	12230.0	26869.0	0 A.

II. Reforestation Recommended for Current and Next Fiscal Year

Fiscal Year	Name of Planting Project	Number of acres to be planted	Species and age-class	Method to be used	Planting Season	Total number of trees needed	Shipping Address and Instructions
1942	Pole Mtn:	0	----	---	------	------	--------
	Foxpark	0					
	Centen-nial	0					
Total		0				0	

III. Estimated Cost of Reforestation Recommended-Current & Next F.Y.'s

Fiscal Year	Number of Acres	Actual Cash Outlay Required Per Acre	Total Cash Outlay Necessary	Contributed Time and Expense	Indicate Available ERA or CCC Labor
1942	0	$0.00	$ 0.00	$ 0.00	CCC becoming more doubtful. ERA unavailable
Total	0	0	0	0	

SHEET E

ANNUAL PLANTING REPORT

Medicine Bow National Forest

Blister Rust Control

Nothing to report.